2012 Consumer Confidence Report

Water System Name: **Mariposa County Public Works** Report Date: 6-26-2013

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 - December 31, 2012 and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

Type of water source(s) in use: See Mariposa Public Utility Districts 2012 CCR

Name & location of source(s): Hauled Water from Mariposa Public Utility District.

Drinking Water Source Assessment information: N/A

Time and place of regularly scheduled board meetings for public participation: The county board of supervisors meet Every Tuesday at 9:00 AM in the government center.

For more information, contact: Darryl Nielsen, Plant Operator Tech. Phone: (209) 966-5356

TERMS USED IN THIS REPORT

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Variances and Exemptions: Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

ND: not detectable at testing limit

ppm: parts per million or milligrams per liter (mg/L)

ppb: parts per billion or micrograms per liter (µg/L)

ppt: parts per trillion or nanograms per liter (ng/L)

ppq: parts per quadrillion or picogram per liter (pg/L)

pCi/L: picocuries per liter (a measure of radiation)

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants*, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the USEPA and the California Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Tables 1, 2, 3, 4, 5, 7, and 8 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The Department allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

TABLE 1 – SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	0	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or *E. coli*	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or *E. coli*	0	Human and animal fecal waste

**Any violation of an MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.*

Additional General Information on Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Lead-Specific Language for Community Water Systems: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Mariposa County Public Works Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During December 2012 we did not monitor for total coliforms and therefore cannot be sure of the quality of the drinking water during that time.

Water is currently being hauled in from Mariposa Public Utility District.

See attached Mariposa Public Utility Districts 2012 CCR for any violations.

Summary Information for Violation of a MCL, MRDL, AL, TT, or Monitoring and Reporting Requirement

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	**Explanation**	**Duration**	**Actions Taken to Correct the Violation**	**Health Effects Language**
Bacteriological Monitoring and Reporting	**Failed to monitor**	**December**	**Immediately Sampled**	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

For Water Systems Providing Ground Water as a Source of Drinking Water

TABLE 7 – SAMPLING RESULTS SHOWING FECAL INDICATOR-POSITIVE GROUND WATER SOURCE SAMPLES					
Microbiological Contaminants (complete if fecal-indicator detected)	**Total No. of Detections**	**Sample Dates**	**MCL [MRDL]**	**PHG (MCLG) [MRDLG]**	**Typical Source of Contaminant**
E. coli	0		0	(0)	Human and animal fecal waste
Enterococci	0		TT	n/a	Human and animal fecal waste
Coliphage	0		TT	n/a	Human and animal fecal waste

MARIPOSA PUBLIC UTILITY DISTRICT
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2012 ANNUAL CONSUMER CONFIDENCE REPORT
STATE WATER SYSTEM #2210001

We test the drinking water quality for many constituents as required by State and Federal Regulations. This report shows the results of our monitoring for the period of January 1 – December 31, 2012.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Type of water source(s) in use: Surface water, wells
Name and location of source(s): Stockton Creek Reservoir, Merced River, various wells
Drinking water source assessment information: Source Water Assessments were completed in April 2003. The sources are considered most vulnerable to the following activities not associated with any detected contaminants:

- Transportation corridors – freeways/state highways
- Transportation corridors – road right-of-ways [herbicide use areas]
- Septic systems – high density [>1/acre]
- Automobile – gas stations
- Historic gas stations
- Wastewater treatment plants and disposal facilities

Time and place of regularly scheduled Board meetings for public participation: Meetings are held the first Tuesday of every month at 6:30 PM. Meeting place is the MPUD office located at 4992 Seventh Street, Mariposa, CA.

For more information contact: Mark L. Rowney, General Manager (209) 966-2515.

TERMS USED IN THIS REPORT:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLS) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWS do not affect the health at the MCL levels.

ND: Not detectable at testing limit

ppm or mg/L: parts per million or milligrams per liter

ppb or ug/L: parts per billion or micrograms per liter

ppt: parts per trillion or nanograms per liter (ng/L)

ppq: parts per quadrillion or picogram per liter (pg/L)

pCi/L: picocuries per liter (a measure of radiation)

Public Health Goal (PHG): The level a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

Regulatory Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Turbidity (measured in NTU) is a measurement of cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.
TON: Threshold Odor Number
DBP: Disinfection by-products
umho/cm: Conductance-Micromho's per cm
MFL: Million fibers per liter
RAA: Running Annual Average
Si: Saturation Index
Meq/L: milligram equivalent $CaCO_3$
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. **Contaminants that may be present in source water include:**

- *Microbial contaminants*, such as viruses, bacteria and parasites like cryptosporidium and Giardia that may come from sewage treatment, plants, septic systems, agricultural livestock operations and wildlife.
- *Inorganic contaminants*, such as salts and metals, that can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- *Pesticides and herbicides*, that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban storm water runoff and septic systems.
- *Radioactive contaminants* that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to insure that the tap water is safe to drink, the USEPA and the California Dept. of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by the public water systems, and certify treatment facilities and operators. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

MPUD treats and tests water according to the CDPH and USEPA regulations. District staff includes four employees certified in the operation of water treatment facilities, four employees certified in water distribution and at least one employee certified as a Laboratory Analyst. District staff is on duty 8-9 hours a day, 7 days a week. There is an MPUD employee on call 24 hours per day. The emergency (water and sewer only) pager phone access number is **209-742-2800**.

MPUD provides water, wastewater, and fire protection services to the general area of the Mariposa town basin. MPUD is a Special District, independent of Mariposa County government. The MPUD legislative body is made up of five Directors elected at large by registered voters residing in the District with individual Directors serving four-year terms. The Board of Directors regular meetings are held the first Tuesday of each month in the MPUD office at 4992 Seventh Street at 6:30PM. The members of the Board are Bill Bondshu, Dana Finney, Bob McKnight, Brian Muller, and David Radanovich. The Chairman for the year 2013 is Dana Finney. The General Manager is Mark Rowney. For more information contact the MPUD administrative office at 966-2515.

The MPUD water supply sources for 2012 include two surface water sources- Merced River at Saxon Creek and the Stockton Creek Reservoir; and three ground water wells (3 wells near the Idle Wheels Senior Mobile Home Park). All of the water from the surface water sources is treated at the treatment facility located on Powder House Road east of town. Treatment consists of flocculation, sedimentation, filtration and disinfection. In addition, a blend of sodium phosphates is added at approximately 2.5 parts per million as a corrosion inhibitor. Water from groundwater sources is pumped directly to the distribution system with some disinfection from chlorine injection at each well head.

During the calendar year of 2012 the District pumped 15,086,000 gallons of water from wells and treated 108,196,400 gallons of water from Stockton Creek Reservoir, 22,597,000 gallons of water from the Saxon Creek water project (Merced River), for a total of 145,880,200 gallons. Therefore, 10% of your water was supplied from wells, 74% from Stockton Creek Reservoir, 16% from the Saxon Creek water project in 2012.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U. S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

MPUD has secured a grant of $3,000,000 through the California State Revolving Fund and a grant of $1,666,667 from the California Proposition 50 funding program. Construction on a new water treatment facility started in September of 2011. Smith Construction of Fresno, California was awarded the construction contract. The primary features of the new facility are a new clarifier, new ultrafiltration membrane fiber filters and granular, activated carbon filters. Construction completion is expected in June 2013. The treatment improvements will increase turbidity removal, provide more effective barrier to bacteriological contaminants and bring the water system into compliance with the disinfection by-product drinking water standards established by the Federal EPA and CDPH.

The following table lists the drinking water contaminants that were <u>detected</u> during the most recent sampling for the constituent. Your drinking water was tested for other constituents not listed, however, analysis results were "non-detect" or less than the minimum laboratory detection limit. The presence of the listed contaminants in the water does not necessarily indicate that the water poses a health risk. CDPH requires water purveyors to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

SAMPLING RESULTS FOR SODIUM AND HARDNESS – SURFACE WATER

Chemical or Constituent	Sample Date	Range of Detections	MCL	PHG MCLG	Typical Source of Contaminant
Sodium (mg/L)	5-21-12	1.1 – 5.4	None	None	Generally found in ground & surface water. Salt present in the water and is generally naturally occurring.
Hardness (meq/L)	5-21-12	7.8 -87	None	None	Generally found in ground & surface water. Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring.

**Any violation of an MCL or AL is asterisked. Additional information regarding the violation is provided later in this report.*

SAMPLING RESULTS SHOWING FECAL INDICATOR-POSITIVE GROUND WATER SOURCE SAMPLES					
Microbiological Contaminants (complete if fecal-indicator detected)	**Total No. of Detections**	**Sample Dates**	**MCL [MRDL]**	**PHG (MCLG) [MRDLG]**	**Typical Source of Contaminant**
E. coli	0	2 PER MONTH	0	(0)	Human and animal fecal waste
Enterococci	(In the year)	N/A	0	0	Human and animal fecal waste
Coliphage	(In the year)	N/A	0	0	Human and animal fecal waste

SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA					
Microbiological Contaminants (complete if bacteria detected)	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	0	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or *E. coli*	0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or *E. coli*	0	Human and animal fecal waste

SAMPLING RESULTS FOR LEAD AND COPPER (AT CUSTOMER TAP) Monitoring from September 2012 – next monitoring required 2015					
	90th Percentile Level Detected	# Sites Exceeding AL	AL	PHG	Typical Source of Contaminant
Lead at customer plumbing fixture 90th percentile for 20 sample sites (ppm) September 2012	.0021 ppm	None	.015 Ppm	0.0002 ppm	Internal corrosion of household plumbing systems, discharges from industrial manufacturers; erosion of natural deposits.

Health Effects Lead: Infants & children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink water containing lead in excess of the MCL over many years may develop kidney problems or high blood pressure.

Beginning with the CCR report due in July 1, 2010, **community water systems** must include the lead-specific language shown below [see 40 CFR 141.154(d)(1)]. A water system may provide its own educational statement, but only after consulting with the Department.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. MPUD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, tested methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Copper at customer plumbing fixture 90th percentile for 20 sample sites (ppm)	.280 ppm	None	1.3 ppm	0.3 ppm	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Health Effects Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

SAMPLING RESULTS FOR DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS AND DISINFECTION BY-PRODUCTS PRECURSORS

Contaminant	MCL	Range of Detections	Major Sources in Drinking Water	Health Effects Language
* TTHMS – Total Trihalomethanes (ppb) (samples quarterly)	80 ppb RAA	**109.6 - 139.6 ppb quarterly RAA**	By-product of drinking water chlorination	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney or central nervous system problems, and may have an increased risk of getting cancer.
* Haloacetic Acids (ppb)	60 ppb RAA	**73.0 – 93.0 ppb quarterly RAA**	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of MCL over many years may have an increased risk of getting cancer.
Chlorine (ppm)	4.0 ppm	.65 - .90 ppm	Drinking water disinfectant added for treatment	Some people who use water containing chlorine well in excess of the MCL could experience irritating effects to their eyes and nose and/or have stomach discomfort.
* Control of DBP precursors (TOC) Ratio quarterly RAA	Must exceed 1.0	**0.89 – 1.13**	Various natural and man-made sources	Total organic carbon (TOC) has no health effects; however, total organic carbon provides a medium for the formation of disinfection by-products. The by-products include trihalomethanes (TTHMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver of kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

**Any violation of an MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.*

SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES

Treatment Technique (type of approved filtration technology used)	Dual media pressure filters
Turbidity Performance Standards (that must be met through the water treatment process)	Turbidity of the filtered water must: 1 – Be less than or equal to .3 NTU in 95% of measurements in a month 2 – Not exceed 1 NTU for more than 1 hour 3 – Not exceed 2 NTU at any time
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1	100%
Highest single turbidity measurement during the year	0.290 NTU
The number of violations of surface water treatment requirements	None

(a) A required process intended to reduce the level of a contaminant in drinking water.
(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

* *Any violation of a TT is marked with an asterisk. Additional information regarding the violation is provided below.*

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Primary Inorganics	Unit	Calif. MCL	PHG MCL	Surface Water Stockton Creek	Surface Water Merced River	Dist. Wells (range)	Typical Source of Contaminant	Health Effects Language
Regulated organic chemicals				ND	ND	ND		
Nitrogen as NO3 (Sampled on 5-21-12)	mg/L	45		<0.018 (Sampled on 5-21-12)	<0.018 (Sampled on 5-21-12)	4.6-11 (Sampled on 5-21-12)	Runoff from fertilizer leaching from septic tanks, erosion of natural deposits	Infants below the age of 6 months who drink water containing nitrate in excess of the MCL may quickly become seriously ill and, if untreated, may die because high nitrate levels can interfere with the capacity of the infant's blood to carry oxygen. Symptoms include shortness of breath and blueness of the skin. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women.

Turbidity – Groundwater only	NTU	5		See page 5	See page 5	.040 - .064		Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacterial viruses and parasites that can cause symptoms such as nausea, cramps, and diarrhea and associated headaches.
Aluminum (Sampled on 5-21-12)	mg/L	1	0.2	0.073 (Sampled on 5-21-12)	.025 (Sampled on 5-21-12)	.003-.0031 (Sampled on 5-21-12)	Erosion of natural deposits, residue from some surface water treatment processes	Some people who drink water containing aluminum in excess of the MCL over many years may experience short-term gastrointestinal tract effects.
Barium (Sampled on 5-21-12)	mg/L	1	2	0.016 (Sampled on 5-21-12)	0.017 (Sampled on 5-21-12)	.00046 – .00078 (Sampled on 5-21-12)	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years may experience an increase in blood pressure.
Chromium Total (Sampled on 5-21-12)	ug/L	50		1.6 (Sampled on 5-21-12)	0.90 (Sampled on 5-21-12)	1.1 (Sampled on 5-21-12)		Some people who use water containing chromium in excess of the MCL over many years may experience allergic dermatitis. Some forms of chromium are carcinogenic.
Perchlorate (Sampled on 5-21-12)	ug/L	6.0		ND (Sampled on 5-21-12)	ND (Sampled on 5-21-12)	ND (Sampled on 5-9-11)		Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones,

								leading to adverse affects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.
Gross Alpha (8-28-2007)	pCi/L avg. compo site	15	0	0.605	0.528	0.6		Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Primary Inorganics	Unit	Calif. MCL	PHG MCL	Surface Water Stockton Creek	Surface Water Merced River	Dist. Wells (range)	Typical Source of Contaminant	Health Effects Language
Calcium (Sampled on 5-21-12)	mg/L			19 (Sampled on 5-21-12)	2.6 (Sampled on 5-21-12)	31 – 40 (Sampled on 5-21-12)		
Magnesium (Sampled on 5-21-12)	mg/L			9.5 (Sampled on 5-21-12)	0.30 (Sampled on 5-21-12)	28 -31 (Sampled on 5-21-12)		
Tot. Alkalinity as $CaCO_3$ (Sampled on 5-21-12)	mg/L			85 (Sampled on 5-21-12)	9.0 (Sampled on 5-21-12)	170 – 190 (Sampled on 5-21-12)		
Bicarbonate Alkalinity (Sampled on 5-21-12)	mg/L			100 (Sampled on 5-21-12)	13 (Sampled on 5-21-12)	210 – 240 (Sampled on 5-21-12)		

Sulfate as SO4 (Sampled on 5-21-12)	mg/L	500		6.7 (Sampled on 5-21-12)	0.92 (Sampled on 5-21-12)	12 – 18 (Sampled on 5-21-12)	Runoff from industrial wastes, erosion of natural deposits	
Chloride (Sampled on 5-21-12)	mg/L	500		2.5 (Sampled on 5-21-12)	0.70 (Sampled on 5-21-12)	7.0 – 9.1 (Sampled on 5-21-12)	Runoff from natural deposits, sea water influence	
pH** (Sampled on 5-21-12)	Unit	6.5 – 8.5		7.7 (Sampled on 5-21-12)	7.7 (Sampled on 5-21-12)	7.0 (Sampled on 5-21-12)		
Specific Conductance (Sampled on 5-21-12)	umho/cm	900 - 1600		200 (Sampled on 5-21-12)	24 (Sampled on 5-21-12)	380- 450 (Sampled on 5-21-12)	Substance that forms ions in water, runoff/leaching of natural deposits	
Tot. Dissolved Solids (TDS) (Sampled on 5-21-12)	mg/L	500 - 1000		130 (Sampled on 5-21-12)	55 (Sampled on 5-21-12)	240 – 300 (Sampled on 5-21-12)	Erosion of natural deposits	
Color (Sampled on 5-21-12)	color units	15		35 (Sampled on 5-21-12)	5.0 (Sampled on 5-21-12)	<1.0 (Sampled on 5-21-12)		
Odor (Sampled on 5-21-12)	TON	3		2.0 (Sampled on 5-21-12)	1.0 (Sampled on 5-21-12)	1.0 - 2.0 (Sampled on 5-21-12)		
Langelier Index @ 60°C (Sampled on 5-21-12)	Si			-0.39 (Sampled on 5-21-12)	-2.68 (Sampled on 5-21-12)	-0.58 - 0.72 (Sampled on 5-21-12)		
MBAS (Foaming Agents) (Sampled on 5-21-12)	mg/L	0.5		<0.05 (Sampled on 5-21-12)	<0.05 (Sampled on 5-21-12)	<0.05 (Sampled on 5-21-12)		
Iron ** (Sampled on 5-21-12)	mg/L	0.3		<0.03 (Sampled on 5-21-12) weekly/annual average	<0.03 (Sampled on 5-21-12)	0.019 (Sampled on 5-21-12)	Erosion of natural deposits	
Manganese ** (1) (Sampled on 5-21-12)	mg/L	0.05		0.0012 (Sampled on 5-21-12) weekly/annual average	0.0012 (Sampled on 5-21-12)	<0.005 (Sampled on 5-21-12)	Erosion of natural deposits	

Fluoride (Sampled on 5-21-12)	mg/L	2		0.059 (Sampled on 5-21-12)	0.018 (Sampled on 5-21-12)	0.037 – 0.060 (Sampled on 5-21-12)		
Potassium (Sampled on 5-21-12)				14 (Sampled on 5-21-12)	0.49 (Sampled on 5-21-12)	0.23 - 0.44 (Sampled on 5-21-12)		
Zinc (Sampled on 5-21-12)	mg/L	5		<0.005 (Sampled on 5-21-12)	<0.0052 (Sampled on 5-21-12)	.0072 – 0.025 (Sampled on 5-21-12)		

VIOLATION OF A MCL, MRDL, AL, TT, OR MONITORING AND REPORTING REQUIREMENT				
Violation	Explanation	Duration	Actions Taken to Correct the Violation	Health Effects Language
Violation exceeded mcl for TTHM and HAA5	Water system required to maintain TTHM and HAA5 less than 80 ppb and 60 ppb respectively. See Range of Detections for Disinfection-By-Products, this report.	All four quarters RAA for 2012 Periodic violations since April 2006 EPA Docket PWS-AO-2006-011	Construction of new water treatment facility. Anticipated completion date June 28, 2013.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney or central nervous system problems, and may have an increased risk of getting cancer. Some people who drink water containing haloacetic acids in excess of MCL over many years may have an increased risk of getting cancer.
Failed to meet minimum removal of DBP precursors (TOC) ratio RAA	Water system required to provide greater than 1.0 RAA of TOC precent removal. See Range of Detections for Disinfection-By-Products, this report.	3rd and 4th quarters of 2012 Periodic violations since April 2006 EPA Docket PWS-AO-2006-011	Construction of new water treatment facility. Anticipated completion date June 28, 2013.	Total organic carbon (TOC) has no health effects; however, total organic carbon provides a medium for the formation of disinfection by-products. The by-products include trihalomethanes (TTHMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver of kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

** Surface water after treatment

Manganese is a secondary drinking water standard. Contaminate limit is a guideline for aesthetic quality – not an adverse affect on public health.

04/09/2013